



1774
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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the Application of:

Youichirou SUGINO et al.

Confirmation No.: 9498

Serial Number: 09/882,671

Group Art Unit: 1774

Filed: June 15, 2001

Examiner: DICUS TAMRA

For: POLARIZER, POLARIZING PLATE, AND LIQUID CRYSTAL DISPLAY USING
THE SAME

Atty. Docket No.: 020581

Customer No.: 38834

AMENDMENT UNDER 37 C.F.R. 1.111

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

August 5, 2004

Sir:

In response to the Office Action dated June 3, 2004, Applicants respectfully request that the application be amended as follows, and that the rejection of record be reconsidered in view of the following remarks.

Amendments to the Claims are reflected in the listing of claims which begins on page 2 of this paper.

Remarks begin on page 8 of this paper.

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02/03/2005 DRAFTS 00000003 502866 09882671
01 FC:1202 198.00 DA
02/03/2005 DRAFTS 07/07/2005 SDIRETAL1 09882671
01 FC:1202 00000003 502866 198.00 CR
01 FC:1202



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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

IN THE UNITED STATES PATENT & TRADEMARK OFFICE
In re the Application of: Youichirou SUGINO et al. 9:30 AM 9:30 Group Art Unit: 1774
Serial No.: 09/882,671 Examiner: Dicus, TAMRA
Filed: June 15, 2001 Confirmation No.: 9498

FILED: JUNE 15, 2001
- AND LIQUID CRYSTAL DISPLAY

For: POLARIZER, POLAR
USING THE SAME

Attorney Docket No.: 020581
Customer Number: 38834

REQUEST FOR REFUND

Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

May 27, 2005

Sir: The undersigned respectfully request a refund in the amount of \$198.00 charge to our deposit account No. 50-2866 for the above-identified patent application. A copy of the Deposit Account monthly statement dated February 28, 2005 accompanies this Request.

The Amendment with total number of claims 44 and independent claims 4 was filed on January 13, 2005 without fees because the highest number of total claims and independent claims previously paid were 45 and 5, respectively. Thus, it is believed that no extra claims charge is necessary for the Amendment of January 13, 2005.

A copy of the Amendment transmittal and Amendment filed on February 19, 2003 is enclosed along with a copy of date-stamped postcard and check stub for your reference. Applicants request that the Patent Office refund the amount of **\$198.00** to Deposit

Account 50-2866.

Respectfully submitted,

WESTERMAN, HATTORI, DANIELS & ADRIAN, LLP

N, HATTORI, D.M.

Nicolas E. Seckel
Attorney for Applicants
Registration No. 44,373

Registration No. 44,575
Tel: (202) 822-1100; Fax: (202) 822-1111

Enclosures: Deposit Account Monthly Statement of March 2005
Copy of Amend. Fd. 2/19/03, Date-stamped Postcard and Check Stub

NES/va



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WESTERMAN, HATTORI, DANIELS & ADRIAN, LLP
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		Page 1
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2 3 05	3	09882671		020581	198.00	6514.00
2 3 05	39	2809991		8504	30.00	6484.00
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2 9 05	31	10497913		9204	-460.00	6824.00
2 10 05	193	10323817		021676	15.00	6809.00
2 10 05	201	10952446		042764	100.00	6709.00
2 11 05	91	11052756		9204	-800.00	7509.00
2 14 05	3	10704684		011065A	200.00	7309.00
2 16 05	117	09650759		001072	12.00	7297.00
2 18 05	1	10140117		020629	120.00	7177.00
2 22 05	22	10947234		030766A	1111	6677.00
2 22 05	23	10947234		030766A	1311	6477.00
2 22 05	24	10947234		030766A	1081	6227.00
2 24 05	67	6840203		1462	250.00	5957.00
2 25 05	43	10936719		042613	1251	5837.00
2 25 05	146	6694114		1462	270.00	5567.00
2 28 05	34	11033111		9204	-50.00	5617.00

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Atty. Docket: 020581

TRADEMARK OFFICE
IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the Application of:

Youichirou SUGINO et al.

Serial Number: 09/882,671

Filed: June 15, 2001

Filed: June 15, 2001

For: POLARIZER, POLARIZING PLATE, AND LIQUID CRYSTAL DISPLAY

Group Art Unit: 1774

Examiner: Dicus, TAMRA

Commissioner for Patents
Washington, D.C. 20231

Date: February 19, 2003

Sir:

Transmitted herewith is an Amendment in the above-identified application.

Transmitted herewith is an Amendment in the
Small Entity status of this application under 37 CFR 1.9 and 1.27 has been established previously.
1.27 is enclosed

Small Entity status of this application.
A statement to establish Small Entity status under 37 CFR 1.9 and 1.27 is enclosed.

The fee has been calculated as shown below:

CLAIMS AS AMENDED							
	Claims Remaining After Amendment	Highest Number Previously Paid For		Present Extra	Small Entity	Large Entity	Additional Fee
Total Claims	45	33	=	12	X \$9	X \$18	216.00
Independent Claims	5	3	=	2	X \$42	X \$84	168.00
First Presentation of Multiple Dependent Claims						\$135	270
						TOTAL FEES ENCLOSED:	
						\$384.00	

XX Enclosed please find our check in the amount of \$384.00 for the additional claims fee in connection with this amendment. The Commissioner is hereby authorized to charge payment for any additional fees associated with this communication or credit any overpayment to Deposit Account No. 01-2340.

Respectfully submitted,

ARMSTRONG, WESTERMAN & HATTORI, LLP



Nicolas E. Seckel
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Attorney for Applicants

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Atty. Docket: 020581

THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the Application of:

Youichirou SUGINO et al.

Serial Number: 09/882,671

Filed: June 15, 2001

For: POLARIZER, POLARIZING PLATE, AND LIQUID CRYSTAL DISPLAY USING
THE SAME

COPY

Group Art Unit: 1774

Examiner: Dicus TAMRA

AMENDMENT UNDER 37 CFR §1.111

Commissioner for Patents
Washington, D.C. 20231

February 19, 2003

Sir:

In response to the Office Action dated November 21, 2002, the Applicants respectfully request that the present application be amended as follows, and the rejection of record be reconsidered in view of the amendments and the following remarks.

A marked-up version of the amendments is included in this response.

AMENDMENTS

IN THE CLAIMS:

Please amend claims 1, 8, 17, 22, 32 and 34 as follows:

1. (Amended) A polarizer formed by dyeing, crosslinking, stretching and drying a hydrophilic polymer film, wherein, when the polarizer is heated at 80°C for 30 minutes, the polarizer thereafter has a shrinkage force of at most 4.0 N/cm in an absorption axis direction.

8. (Amended) A polarizing plate comprising a polarizer, wherein, when the polarizer is heated at 80°C for 30 minutes, the polarizer thereafter has a shrinkage force of at most 4.0 N/cm in an absorption axis direction; and a protective film laminated on at least one surface of the polarizer, wherein the polarizing plate satisfies a relationship of $0.01 A/B \leq 0.16$ where A denotes a thickness of the polarizer and B denotes a thickness of the protective film.

17. (Amended) The polarizing plate according to claim 8 further comprising, at least one optical layer selected from a reflector, a transreflector, a retardation plate, a lambda plate, a viewing angle compensating film, and a brightness enhancement film.

22. (Amended) A polarizer, wherein, when the polarizer is heated at 80°C for 30 minutes, the polarizer thereafter has a shrinkage force of at most 4.0 N/cm in an absorption axis direction.

32. (Amended) The polarizing plate according to claim 17, wherein the optical layer is a lambda plate.

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34. (Amended) The polarizing plate according to claim 17, wherein the optical layer is a brightness enhancement plate.

Please add new claims 36-47 as follows:

36. (New) A method for preparing a polarizer, comprising: dyeing, crosslinking, stretching and drying a hydrophilic polymer film, wherein a thickness of the hydrophilic polymer film for the starting material is not more than 75 μ m.

37. (New) The method for preparing a polarizer according to claim 36, wherein stretching of the film is conducted in water and subsequently, crosslinking of the film is conducted with a crosslinking agent.

38. (New) The method for preparing a polarizer according to claim 36, wherein stretching of the film is conducted in a traverse direction and subsequently in a longitudinal direction.

39. (New) The method for preparing a polarizer according to claim 36, further comprising: relaxing stress at least once after stretching the film, and further stretching.

40. (New) The method for preparing a polarizer according to claim 36, wherein the thickness of the hydrophilic polymer film for the starting material is not more than 60 μ m.

41. (New) The method for preparing a polarizer according to claim 36, wherein the thickness of the hydrophilic polymer film for the starting material is from 20 to 50 μ m.

42. (New) A polarizer formed by the method comprising: dyeing, crosslinking, stretching and drying a hydrophilic polymer film,
wherein a thickness of the hydrophilic polymer film for the starting material is not more than 75 μ m.

43. (New) The polarizer according to claim 42, wherein stretching of the film is conducted in water and subsequently, crosslinking of the film is conducted with a crosslinking agent.

44. (New) The polarizer according to claim 42, wherein stretching of the film is conducted in a traverse direction and subsequently in a longitudinal direction.

45. (New) The polarizer according to claim 42, further comprising: relaxing stress at least once after stretching the film, and further stretching.

46. (New) The polarizer according to claim 42, wherein the thickness of the hydrophilic polymer film for the starting material is not more than 60 μ m.

47. (New) The polarizer according to claim 42, wherein the thickness of the hydrophilic polymer film for the starting material is from 20 to 50 μ m.

MARKED-UP VERSION OF AMENDMENTS

Claims 1, 8, 17, 22, 32 and 34 have been amended as follows:

1. (Amended) A polarizer formed by dyeing, crosslinking, stretching and drying a hydrophilic polymer film, wherein, when the polarizer is heated at 80°C for 30 minutes, the polarizer thereafter has a shrinkage force of at most 4.0 N/cm in an absorption axis direction after being heated at 80°C for 30 minutes.

8. (Amended) A polarizing plate comprising a polarizer having, wherein, when the polarizer is heated at 80°C for 30 minutes, the polarizer thereafter has a shrinkage force of at most 4.0 N/cm in an absorption axis direction after being heated at 80°C for 30 minutes; and

a protective film laminated on at least one surface of the polarizer, wherein the polarizing plate satisfies a relationship of $0.01 A/B \leq 0.16$ where A denotes a thickness of the polarizer and B denotes a thickness of the protective film.

17. (Amended) The polarizing plate according to claim 8 further comprising, at least one optical layer selected from a reflector, a transreflector, a retardation plate, a λ plate, a viewing angle compensating film, and a brightness-enhanced brightness enhancement film.

22. (Amended) A polarizer having, wherein, when the polarizer is heated at 80°C for 30 minutes, the polarizer thereafter has a shrinkage force of at most 4.0 N/cm in an absorption axis direction after being heated at 80°C for 30 minutes.

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32. (Amended) The polarizing plate according to claim 17, wherein the optical layer is a λ
lambda plate.

34. (Amended) The polarizing plate according to claim 17, wherein the optical layer is a
brightness-enhanced brightness enhancement plate.

New claims 36-47 have been added.

REMARKS

By the present amendment, claims 1, 8, 17, 22, 32 and 34 have been amended and new claims 36-43 have been added. Support for the new claims is found in the original application, in particular on page 5, lines 21-26 (claims 36, 40-42 and 46-47) and on page 4, lines 12-17 (claims 37-39 and 43-45).

Claims 1-18 and 21-47 are pending in the present application. Independent claims 1 and 22 are directed to a polarizer. Independent claim 8 is directed to a polarizing plate. Claims 2-18 and 21 are dependent directly or indirectly on claim 1, and claims 23-35 are dependent directly or indirectly on claim 8. Claims 36-41 are directed to a method for preparing a polarizer and claims 42-47 are directed to a polarizer.

As a preliminary, in the Office Action, claims 17, 30, 32 and 34 are rejected under 35 U.S.C. 112, second paragraph, as indefinite. The Examiner alleges that the symbol “ λ ” should be replaced by a generic term and that the terms “brightness-enhanced” and “transflector” are undefined relative terms.

Reconsideration and withdrawal of the rejection is respectfully requested. The symbol “ λ ” has been replaced by “lambda” in claims 17 and 32, and the term “brightness-enhanced” has been replaced by “brightness enhancement” in claim 34. It is submitted that these terms are conventional in the art. In particular, a “lambda” plate is a term in the art to designate a type of retardation plate in connection with wavelength, such as quarterwave or half-wave plate, as described on page 8, lines 12-13 of the specification. Also, the term “brightness enhancement” is clear, even though it is a

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relative term, because it conventionally means that light is processed so as to improve the brightness of transmitted light, which can be measured conveniently by conventional scientific methods.

Further, the objection to the term "transflector" in claim 32 is respectfully traversed. It is submitted that the term "transflector" means conventionally that a portion of light is transmitted and a portion of light is reflected, which property can be scientifically observed and measured.

In view of the above, it is submitted that the rejection should be withdrawn.

Next, in the Office Action, claims 1, 5, 7-9, 12-15, 18, 22, 28 and 35 are rejected under 35 U.S.C. 102(b) as anticipated by US 5,914,073 to Kobayashi et al. (Kobayashi). It is alleged in the Office Action that (i) the claims are of the product-by-process type, so that the process recited in the claims is not a limitation of the claims, and (ii) the recited property is inherent in the film of Kobayashi.

Reconsideration and withdrawal of the rejections is respectfully requested.

As a preliminary, it is submitted that the shrinking force recited in present claims 1, 8 and 22 is not a process limitation as apparently misconstrued in the Office Action. Thus, the heating step recited in claims 1, 8 and 22 is not a process step for making the polarizer, but a pre-measurement step which is performed so as to measure the shrinking force of the polarizer in conditions corresponding to actual use in a heating environment. This point has been clarified by amending claims 1, 8 and 22 to recite "when the polarizer is heated at 80°C for 30 minutes..."

Turning now to Kobayashi, this reference does not concern primarily a polarizing film, but a protective film applied to a polarizing film. This is apparent in particular at col. 3, lines 8-14 and Fig. 1(b) and the following paragraphs which discuss exclusively the transparent resin film (protective

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film). In particular, the polarizing films are only discussed generally at col. 22, lines 24-29 of Kobayashi, while Examples 1 to 7 relate to the protective film, not the polarizer. Also, the thickness ranges described at col. 3, lines 34-35 of Kobayashi relate to the protective film, not to the polarizing film, while the thickness ranges described at col. 4, line 51 of Kobayashi is for the hardened coating layer. In summary, the only polarizers disclosed in Kobayashi are prior art polarizing films which do not meet the shrinking force feature of the present claims.

The high shrinking force of the prior art polarizing films is generally related to their large thickness. Polarizing plates are conventionally prepared industrially by dyeing, crosslinking, stretching and drying a hydrophilic polymer, e.g., PVA film. The thus obtained polarizing films usually maintain stress generated at the time of stretching. Therefore, when an external force such as heating or humidifying is applied to the polarizing film, the polarizing film cannot withstand the residual stress and generates a shrinkage force.

Specifically, the thicker the film before stretching, the more stress is applied to the film by elongation, and the higher the shrinking force of the stretched film when heating is applied. Accordingly, conventional prior art polarizers have a high shrinking force.

Kobayashi fails to teach or suggest another type of polarizer than the prior art polarizers discussed above and in the introduction to the present specification. Therefore, the present claims are not obvious over Kobayashi.

In view of the above, it is submitted that the rejection should be withdrawn. Next, in the Office Action, claims 1-18 and 21-35 are rejected under 35 U.S.C. 103(a) as obvious over US 6,361,838 to Miyatake et al. (Miyatake) in view of Kobayashi and US 6,065,457

Serial Number: 09/882,671

to Aminaka (Aminaka). It is alleged that Miyatake teaches a stretched PVA film used in a multilayer structure, and considers that the backlight of Miyatake is equivalent to a "brightness-enhanced" material and an optical layer that reflects or scatters light is synonymous to a "transflector". It is also alleged that Miyatake discloses a thickness range of 1 to 500 microns and Kobayashi discloses that the thickness is selected according to the polymer used.

Reconsideration and withdrawal of the rejection is respectfully requested. Miyatake concerns an optical film which is applied to a polarizer plate, as is apparent in particular from the passage at col. 9, lines 8-23, as well as the method for forming the optical film at col. 2, line 64 to col. 3, line 6 of Miyatake, which cannot apparently result in a polarizer as in the presently claimed invention. Thus, Miyatake fails to provide any teaching or suggestion relevant to polarizers having low shrinking force.

In this respect, it is submitted that the term "brightness enhancement film" does not relate to a backlight. A backlight emits light and can be used as a light source for, e.g., a display panel. In contrast, a brightness enhancement film receives incident light and enhances the brightness of a display panel. Also, as discussed above, the term "transflector" is not synonymous with an optical layer that reflects or scatters light.

In addition, Kobayashi fails to provide any teaching or suggestion regarding the thickness of polarizers, as discussed above (the thickness ranges indicated are for the protective layer), and Aminaka fails to remedy the deficiencies of Miyatake and Kobayashi. As a result, the present claims are not obvious in view of the cited combination of references.

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In view of the above, it is submitted that the rejection should be withdrawn.

In conclusion, the invention as presently claimed is patentable. It is believed that the claims are in allowable condition and a notice to that effect is earnestly requested.

In the event there is, in the Examiner's opinion, any outstanding issue and such issue may be resolved by means of a telephone interview, the Examiner is respectfully requested to contact the undersigned attorney at the telephone number listed below.

In the event this paper is not considered to be timely filed, the Applicants hereby petition for an appropriate extension of the response period. Please charge the fee for such extension and any other fees which may be required to our Deposit Account No. 01-2340.

Respectfully submitted,

ARMSTRONG, WESTERMAN & HATTORI, LLP

By:


Nicolas E. Seckel
Attorney for Applicants
Reg. No. 44,373

Atty. Docket No. 020581

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ARMSTRONG, WESTERMAN, HATTORI, LLP.
Claims in excess of Twenty (12)
Independent Claims in excess of Three (2)

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ROUTE TO: YA

CARD NO: 20591

U.S. Patent Application Docket No: 020581
Serial No: 09/882,671 Filed: 06/15/01
Patent Number: Issued:
Applicant(s): SUGINO, Youichirou et al.

Papers filed herewith on: 02/19/03

Fees: \$ 384.00

Amendment

Other: Amend. Transmittal



COMMISSIONER OF PATENTS

Receipt is hereby acknowledged of the papers filed as indicated
in connection with the above-identified case.

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